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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,586	03/10/2004	James W. Bush	03-597	6345

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BACHMAN & LAPOINTE, P.C.
900 CHAPEL STREET
SUITE 1201
NEW HAVEN, CT 06510

EXAMINER

BANKHEAD, GENE LOUIS

ART UNIT	PAPER NUMBER
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3744

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/798,586

Applicant(s)

BUSH, JAMES W.

Examiner

Gene L. Bankhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7, 8, 11 and 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7, 8, 11 and 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

FINAL REJECTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 11, 13, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kocher in view of Lifson. Kocher discloses a screw-type compressor having outlet 12, inlet 8 and a first port 20 between the inlet and outlet, condenser 14, first evaporator E connected to the condenser outlet and the inlet and second higher temperature evaporator E' connected to the condenser outlet and the first port (see col. 1, lines 68 to col. 2, lines 1-45) for providing cooling of different temperatures to two separate compartments. Lifson teaches the use of screw and scroll type compressors for providing two suction pressures for use in a refrigeration system (see col. 2, lines 17-32) and the use of an economizer 20 connected to the intermediate port of a compressor 33 in order to increase performance of a refrigeration system (see col. 3, lines 4-28). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Kocher such that it included the use of a scroll type compressor rather than a screw type compressor and included the use of an economizer connected to the intermediate port of the compressor in order to increase performance of the system in view of the teachings of Lifson.

Claims 1 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkey. Tinkey discloses a compressor 2 having outlet, inlet 3 and a first port 4 between the inlet and outlet, condenser 16, first evaporator 5 connected to the condenser outlet and the inlet and second higher temperature evaporator 6 connected to the condenser outlet and the first port and first heat exchanger 9 and second heat exchanger 10 for exchanging heat from the refrigerant discharged by the condenser 16 with the refrigerant discharged by the evaporators 5,6 (see Figure 2 and col. 2, lines 49-67) for providing cooling of different temperatures to two separate compartments. Tinkey also discloses the first and second heat exchangers arranged in series (see Figure 7 and col. 4, lines 52-66). The arrangement of the first heat exchanger downstream of the second heat exchanger is considered to have been an obvious matter of engineer design based upon the location of the two evaporators since the result will not be sufficiently different, i.e. both heat exchangers will provide subcooling of the refrigerant leaving the condenser regardless of which is connected to the condenser outlet first.

Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkey as applied to claim 1 above, and further in view of Kramer, Jr. Kramer teaches branching the flow of refrigerant from the condenser 20 into a plurality of branches in order to provide refrigerant from the condenser outlet to each heat exchanger 28 connected to the outlet of a plurality of evaporators 17 (see Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Figure 2 of Tinkey such that it included the branching the

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flow of refrigerant from the condenser into two branches in order to provide refrigerant from the condenser outlet to each heat exchanger connected to the outlet of the evaporators in view of the teachings of Kramer.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkey as applied to claim 1 above, and further in view of Lifson as applied to claim 8 above.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tinkey in view of Kramer, Jr. as applied to claim 7 above, and further in view of Lifson as applied to claim 8 above.

Response to Arguments

Applicant's arguments filed 10/04/06 have been fully considered but they are not persuasive.

Regarding claims 1-3 and 20, the applicant argues that the Tinkey reference does not meet the limitations of the claims because the first heat exchanger is located upstream of the second heat exchanger, and not downstream as claimed in claim 1. He further argues that there is no clear indication that the Tinkey reference would advantageously function, if at all. The Examiner respectfully disagrees. As previously mentioned, both heat exchangers will provide subcooling of the refrigerant leaving the condenser regardless of which is connected the condenser outlet first. Thus, regardless of the positioning of the two heat exchangers, the system would have been capable of operating in the same manner. With regards to the supposition that the Tineky invention

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would not advantageously function, the Office gives full faith and credit to the operability of a disclosed patented invention. The Lifson reference, used to reject the claims depending from claim 1, was used to teach that either a screw type compressor or a scroll type compressor may be used in the system. The specific connectivity of the pistons in the assembly has no effect on the type of compressor used by the system, as they may be arranged similarly in both the screw and scroll type compressors. Thus, the rejection of claim 1 and all depending claims is proper and remains. In response to applicant's argument that there is no suggestion to combine the references in claim 7 and all claims depending from claim 7, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir 1988) and *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir 1992). In this case, Kramer is used to teach a parallel arrangement for heat exchangers (see specifically, column 4, lines 65-70 and Figure 1). This reference clearly demonstrates that the use of parallel flow heat exchangers were very common and well known in the art at the time of the invention, and it would have been well within the skill of those in the art to incorporate this arrangement in the Tinkey reference. Additionally, the Lifson reference, used to reject the claims depending from claim 7, was used to teach that either a screw type compressor or scroll type compressor may be used in the system. The specific connectivity of the pistons in the assembly has no effect on the type of compressor used

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by the system, as they may be arranged similarly in both the screw and scroll compressors. Thus, the rejection of claim 7 and all depending claims is proper and remains.

Claims 8, 11, and 17-19 are argued as being patentable because there is no sufficient reason to modify the Kocher reference with the Lifson economizer since Kocher already teaches an economizer. The applicant further argues that Kocher economizer and second evaporators are alternative structures, and thus, teach away from their combination. As understood, the applicant equates the Kocher flash chamber 40 with an economizer. The applicant has not provided any evidence that the alternative structure for the economizer and second evaporator would cause the economizer and evaporator to function any differently than they would if they were in combination with one another. The Lifson reference, used to reject the claims depending from claims 8 and 11, was used to teach that either a screw type compressor or a scroll type compressor may be used in the system. The specific connectivity of the pistons in the assembly has no effect on the type of compressor used by the system, as they may be arranged similarly in both the screw and scroll type compressors. Thus, the rejection of claims 8 and 11 and all depending claims is proper and remains.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gene L. Bankhead whose telephone number is (571)-272-8963. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571)-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


CHERYL TYLER
SUPERVISORY PATENT EXAMINER

GB
Examiner
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